

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

- 1           1. (Currently amended) A method for protecting an item of private  
2 information in a database, wherein the item of private information is used as a key  
3 for retrieving data from the database, wherein the method comprises:  
4           receiving the item of private information;  
5           creating a hash of the item of private information at a database, wherein  
6           creating the hash further comprises checking a column attribute for a column,  
7           which stores the item of private information, in the database to determine that  
8           “privacy” is enabled for the column, and only upon privacy being enabled for the  
9           column, creating the hash; and  
10          storing the hash of the item of private information in the database.
- 1           2. (Previously presented) The method of claim 1, wherein creating the  
2 hash can include creating at least one of a Secure Hash Algorithm-1 (SHA-1) and  
3 a Message-Digest algorithm 5 (MD5) hash.
- 1           3. (Original) The method of claim 1, wherein the hash of the item of  
2 private information is created by the database in a manner that is transparent to an  
3 application which manipulates the private information.
- 1           4. (Original) The method of claim 1, wherein processing a query  
2 containing the private information involves:

3 receiving the item of private information;  
4 creating a hash of the item of private information; and  
5 querying the database using the hash of the item of private information.

1 5. (Original) The method of claim 1, wherein the item of private  
2 information can include one of:  
3 a social security number;  
4 a driver's license number;  
5 a passport number;  
6 an email address;  
7 a person's name; and  
8 a person's mother's maiden name.

1 6. (Original) The method of claim 1, wherein multiple items of private  
2 information can be combined prior to creating the hash.

1 7 (Canceled).

1 8. (Original) The method of claim 1, wherein the database is a Lightweight  
2 Directory Access Protocol (LDAP) database.

1 9. (Currently amended) A computer-readable storage medium storing  
2 instructions that when executed by a computer cause the computer to perform a  
3 method for protecting an item of private information in a database, wherein the  
4 item of private information is used as a key for retrieving data from the database,  
5 wherein the method comprises:  
6 receiving the item of private information;

7           creating a hash of the item of private information at a database, wherein  
8           creating the hash further comprises checking a column attribute for a column,  
9           which stores the item of private information, in the database to determine that  
10          “privacy” is enabled for the column, and only upon privacy being enabled for the  
11          column, creating the hash; and  
12          storing the hash of the item of private information in the database.

1           10. (Previously presented) The computer-readable storage medium of  
2          claim 9, wherein creating the hash can include creating at least one of a Secure  
3          Hash Algorithm-1 (SHA-1) and a Message-Digest algorithm 5 (MD5) hash

1           11. (Original) The computer-readable storage medium of claim 9, wherein  
2          the hash of the item of private information is created by the database in a manner  
3          that is transparent to an application which manipulates the private information.

1           12. (Original) The computer-readable storage medium of claim 9, wherein  
2          processing a query containing the private information involves:  
3                  receiving the item of private information;  
4                  creating a hash of the item of private information; and  
5                  querying the database using the hash of the item of private information.

1           13. (Original) The computer-readable storage medium of claim 9, wherein  
2          the item of private information can include one of:  
3                  a social security number;  
4                  a driver’s license number;  
5                  a passport number;  
6                  an email address;  
7                  a person’s name; and

8 a person's mother's maiden name.

1 14. (Original) The computer-readable storage medium of claim 9, wherein  
2 multiple items of private information can be combined prior to creating the hash.

1 15 (Canceled).

1 16. (Original) The computer-readable storage medium of claim 9, wherein  
2 the database is a Lightweight Directory Access Protocol (LDAP) database.

1 17. (Currently amended) An apparatus for protecting an item of private  
2 information in a database, wherein the item of private information is used as a key  
3 for retrieving data from the database, comprising:

4 a receiving mechanism configured to receive the item of private  
5 information;

6 a hashing mechanism configured to create a hash of the item of private  
7 information at a database;

8 wherein the hashing mechanism is further configured to check a column  
9 attribute for a column, which stores the item of private information, in the  
10 database to determine that "privacy" is enabled for the column, and only upon  
11 privacy being enabled for the column, to create the hash of the private  
12 information; and

13 a storage mechanism configured to store the hash of the item of private  
14 information in the database.

1 18. (Previously presented) The apparatus of claim 17, wherein the hashing  
2 mechanism is configured to use at least one of a Secure Hash Algorithm-1 (SHA-  
3 1) and a Message-Digest algorithm 5 (MD5) hashing function.

1           19. (Original) The apparatus of claim 17, wherein the hashing mechanism  
2 is internal to the database and is transparent to an application which manipulates  
3 the private information.

1           20. (Original) The apparatus of claim 17, further comprising a query  
2 mechanism configured to perform queries containing the private information,  
3 wherein the query mechanism is configured to:  
4           receive the item of private information;  
5           create a hash of the item of private information; and to  
6           query the database using the hash of the item of private information.

1           21. (Original) The apparatus of claim 17, wherein the item of private  
2 information can include one of:  
3           a social security number;  
4           a driver's license number;  
5           a passport number;  
6           an email address;  
7           a person's name; and  
8           a person's mother's maiden name.

1           22. (Original) The apparatus of claim 17, wherein the hashing mechanism  
2 can be further configured to combine multiple items of private information prior  
3 to creating the hash.

1           23 (Canceled).

1           24. (Original) The apparatus of claim 17, wherein the database is a  
2 Lightweight Directory Access Protocol (LDAP) database.